

Maricopa County

Recorder's Office – Election Day Processes and Related Issues



Report of Observations and Recommendations

November 2, 2018

Prepared for:

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1. EXECUTIVE SUMMARY

The experience of Maricopa County (the County), Arizona, in the Primary Election held on August 28, 2018, led to County Board of Supervisors' (Board's) concerns about the successful execution of the General Election to be held on November 6, 2018. Those concerns led the Board to direct the County Internal Audit Department (IAD) to conduct an assessment of election planning and Election Day activities, and to engage an external consultant to provide consulting services to follow up on, and supplement, that assessment.

Berry Dunn McNeil & Parker, LLC (BerryDunn or the Firm) was engaged to provide the requested consulting services related to County Recorder's Office (Office) processes for planning and executing the Election Day activities for the Primary Election, and to provide recommendations for future elections. These consulting services do not constitute an audit, examination, or attestation of any type. The scope of services for this engagement included an assessment of the Office's progress on recommendations made by IAD in its Interim Report dated September 21, 2018. Subsequent clarification of the scope highlighted the forward-looking nature of services to be performed, including an emphasis on recommendations that could be effectively implemented before the General Election, as well as any direct assistance BerryDunn could provide to support those recommendations. By far, the most prominent environmental factor in defining the scope and schedule of the project, as well as the nature of recommendations and timing of their communication, was time constraint. BerryDunn was engaged on September 20, 2018, and the immovable date of the General Election is November 6, 2018.

BerryDunn's approach to conducting this engagement included: participating in a knowledge transfer with IAD, obtaining documentation from the Office, directly observing activities of and interviewing Office staff, and attending internal meetings of the Office. BerryDunn communicated observations and recommendations to IAD and the Office throughout the engagement; this report summarizes these items previously communicated, and describes the project itself. This report reflects information received through the original response deadline of October 26, 2018. Information received between October 27, 2018 and October 30, 2018 was noted in the relevant sections of the report.

BerryDunn's observations and recommendations are grouped into the following categories: staffing and training, technology management, and project management. The observations reflect a theme of significant effort by the Office to address problems experienced during the Primary Election, and the recommendations reflect an absence of systematized management tools, processes, and communication to ensure the implementation of planned solutions. The recommendations need to be read in their entirety to convey the actions necessary for optimal short-term results. However, BerryDunn identified the compilation of a staffing analysis—which would identify recruiting and training requirements, the current roster of filled positions, and the resulting gaps—as an absolutely critical component of a project-wide staffing plan that should be completed, continually updated and monitored, and properly communicated as soon as possible. Additionally, BerryDunn believes that the Office management team should conduct





structured tabletop sessions to clarify roles, responsibilities, and actions to be taken in the event of various scenarios; these sessions may significantly reduce the risk of insufficient response to adverse events on Election Day.

BerryDunn's recommendations include items the Firm believes could be addressed prior to the General Election, and have been communicated to the Office during the course of this engagement, prior to the date of this report. (BerryDunn's short-term recommendations are included in Section 8 – Observations and Recommendations.) BerryDunn has also included recommendations that could not realistically be implemented in the short timeframe between the point when the Firm identified the potential improvement and the General Election. (These recommendations are included in Section 9 – Future Election Recommendations for Improvement.) The recommendations in Section 9 reflect both potential improvements in project management for areas BerryDunn specifically observed, as well as best practices for areas the Firm did not have the opportunity to observe due to constraints on time or availability of Office staff.

Certain short-term recommendations that BerryDunn verbally communicated appear to have been implemented during the course of this assessment; therefore, these recommendations are not necessarily highlighted in this report.





2. PROJECT BACKGROUND

The County engaged BerryDunn to conduct an assessment of the Office's processes for planning and executing Election Day activities. The objective of the assessment was to support the Office in achieving its mission to provide access to the electoral process for citizens, jurisdictions, candidates, the legislature, and special interest groups. The scope included consideration of the efficiency and effectiveness of the Office's election activities. The areas of focus included:

- Readiness planning/project management
- Staffing plans and training
- Election Day setup
- Contingency planning

During Phase 1 of the project, BerryDunn conducted initial project planning activities, as well as reviewed and finalized the Project Work Plan and Schedule. BerryDunn also reviewed existing County documentation, conducted interviews and work sessions with the project manager and IAD stakeholders, and provided weekly status updates to IAD.

In Phase 2, BerryDunn conducted an on-site kickoff meeting and various forms of fact-finding activities, including document reviews, interviews, and walkthroughs. As a result of the Firm's fact-finding activities, BerryDunn discussed with the Office preliminary observations and opportunities for improvement.

In the final phase, Phase 3, BerryDunn submitted a draft Report of Observations and Recommendations (the Report) that included the Firm's assessment, supported by its observations, fact-finding interviews, and document reviews. The recommendation sections included short-term solutions to improve the operation of the General Election on November 6, 2018, and long-term solutions to improve the operation of future elections, when applicable. BerryDunn conducted a walkthrough of the draft report prior to submission of this final Report.





3. SCOPE

The scope of work was clarified as described below and communicated to the Office:

- Assess the process of planning Election Day activities, including staffing and recruitment, project management, training, communications, scheduling, location setup, equipment readiness, facility and warehouse logistics, and other election readiness activities as identified during the assessment
- Assess the process of executing Election Day activities, including opening of vote locations, line management, and staff management that occur prior to October 30
- Assess contingency procedures related to unexpected problems encountered during setup and Election Day activities
- Assess any other activities deemed critical to executing a successful election
- Due to time constraints and a desire for corrective actions prior to the General Election on November 6, 2018, provide interim recommendations and briefings as requested
- Assess whether previous recommendations for improvement, as described in the County Auditor's Interim Report dated September 21, 2018, are adequately implemented
- Perform other activities, such as attending meetings, and provide deliverables as requested
- Adhere to any administrative requirements as is customary for this type of engagement





4. APPROACH

BerryDunn prioritized the areas to be assessed based on imminent risk to the processes supporting the upcoming General Election on November 6, 2018. BerryDunn's objective was to assist the Office in mitigating risks to a successful General Election by reviewing and assessing opportunities for improvement from previous elections, and assessing planning and execution of Election Day activities.

BerryDunn's planned approach included:

- Assisting with project management activities throughout the project
- Assessing mitigation effort of previously identified issues
- Leveraging elections expertise
- Analyzing project documents received from the Office
- Reviewing prior elections to assess project risks and issues
- Assessing project resource staffing and assignments
- Assessing project milestones and scheduling
- Assessing the project work plan
- Interviewing and observing project manager and project leads
- Communicating recommendations as developed during the engagement to allow for implementation in time to benefit Election Day processes for the upcoming General Election





5. ASSUMPTIONS AND CONSTRAINTS

An assumption is anything that is believed to be true but that has not been verified. Assumptions can relate to something in the present or in the future, and are beyond the control of a project. Assumptions are therefore a source of potential project risk. BerryDunn made the following assumptions related to this assessment:

- Information conveyed in meetings and interviews is accurate to the best of the knowledge of the individual conveying that information
- Information conveyed in received documents is accurate
- Office staff intend to implement plans of action as described to BerryDunn

A constraint is a factor that imposes a limitation on a project; for example, limits on time, schedule, resources, or scope. BerryDunn encountered the following constraints related to this assessment:

- Limited time to complete assessment before the General Election (November 6, 2018)
- Limited scope due to compressed project timeline
- BerryDunn had originally planned on more participation by a team member with project management expertise and elections process experience

The limitations on the project imposed by the compressed timeline and loss of access to the Office by a team member, as noted above, resulted in greater emphasis on assessment of, rather than assistance with, project management activities.





6. WORK PERFORMED

BerryDunn performed a variety of fact-finding activities in order to obtain insight and gather information necessary to perform an assessment of processes for planning and executing Election Day activities. These fact-finding activities included knowledge transfer sessions with IAD, interviews with Office staff, observations of Office management meetings, and observations of Office training activities. Table 6.1 describes meetings BerryDunn attended as part of fact-finding activities.

Table 6.1: Fact-Finding Meetings

Meeting Title	Date
Knowledge Transfer Work Session With IAD	September 26, 2018
Knowledge Transfer Work Session With IAD	September 27, 2018
Kickoff Meeting With the Office	October 1, 2018
The Office's Warehouse Walkthrough	October 1, 2018
Interview With the Chief Deputy	October 1, 2018
Chiefs of Staff Meeting	October 3, 2018
Interview With the Elections Policy Officer	October 5, 2018
Interview With the Personal Computer (PC)/Local Area Network (LAN) Technician Senior/Lead	October 9, 2018
Interview With the Chief Deputy	October 10, 2018
The Office's Weekly Management Meeting	October 10, 2018
Interview With the Application Development Manager	October 11, 2018
The Office's Weekly Management Meeting	October 17, 2018
Board Worker Training	October 18, 2018
Preliminary Observations and Recommendations Meeting	October 19, 2018
Weekly Office Meeting	October 19, 2018
Meeting With the Chief Deputy	October 23, 2018
Dashboard Demonstration	October 26, 2018
Meeting With the Chief Deputy and the Assistant Director of Election Services	October 29, 2018

In addition to meetings and interviews, BerryDunn requested and reviewed documentation related to the planning and execution of Election Day activities. BerryDunn requested documentation from the Office related to staffing and training, technology management, and project management. BerryDunn also completed an online training course and attended an inperson training session for board workers. Table 6.2, on the following page, describes documents requested from the Office and indicates whether the Firm received the document.





Additionally, BerryDunn reviewed background documentation provided by IAD, including supporting documentation for the County Auditor's Interim Report. (This documentation is not included in Table 6.2.)

Table 6.2: Documentation Requested and Status

Requested Item	Status	Document(s) Received
Staffing and recruiting spreadsheets, along with any related staffing plans	Provided	 Board Worker Recruitment Report Screenshot Elections Worker Spreadsheet IT Troubleshooter Spreadsheet Monday Setup Tech Spreadsheet County Employee Spreadsheet Troubleshooter Spreadsheet Staffing plan for 2018 General Election
Schedule of all completed and future election worker trainings	Provided	 Training Calendar for Board Workers Training Schedule for Information Technology (IT) Troubleshooters on Eventbrite Website Training Schedule for IT Setup Employees on Eventbrite Central Board Worker Schedule on Eventbrite
List of all routes with schedules for workers responsible for setting up SiteBooks at polling locations	Partially provided – specific assignments will not be started to be scheduled until October 29, 2018; expected to be completed November 1, 2018	Troubleshooter Routes
Copy of contingency and escalation procedures, along with a description of how election workers will be trained on, and have access to, these procedures	Provided	 Draft of Emergency SiteBooks Procedures Emergency Packet Procedures





Requested Item	Status	Document(s) Received
Copy of any handouts that election workers will provide to voters for alternative voting options if the voting equipment is not operational, or if a voter is in the wrong "assigned polling place"	Provided	General Vote Center – Election Day Flyer
Voter turnout at each voting location during the Primary Election and any analysis of projected turnout for each location during the General Election	Partially provided – analysis of projected turnout for each location has not been provided	Facility Ballot Counts
Advertisement Plan	Provided	 Media Statement of Work for General and Primary Elections Memo 2018 Election Communication
List of issues compiled	Provided	Training Issues – Primary 2018
Inspector packet checklists	Provided	Inspector Setup Packet and Checklist
Access to online training	Provided	 Election Day Training Manual Access to Training Website
Draft accountability checklist for closing procedures	Provided	Draft Accountability Checklist
IT Troubleshooter Coverage Plan (projection of how many locations each IT troubleshooter potentially covers)	Provided	IT Troubleshooter Deployment Plan
Training material (for troubleshooters) that includes contingency procedures	Not provided – the Office reported this item was in progress as of October 29, 2018	N/A
Staging locations	Provided	Email With Staging Location Addresses
Letter to facilities	Provided	Draft of Thank You Letter to Facilities





Requested Item	Status	Document(s) Received
Voting sites with connectivity issues	Provided	Spreadsheet of Voting Sites With Connectivity Issues
Communications Plan	Provided	2018 Elections Communications Plan

Throughout the project, BerryDunn communicated observations and short-term recommendations to the Office, with the intent that the Office could implement short-term recommendations before the General Election.





7. COMMON TERMS AND ABBREVIATIONS

Table 7.1 provides a list of common terms and abbreviations definitions used throughout the report.

Table 7.1: Common Terms and Abbreviations

	Common Terms and Abbreviations
Term	Definition
BerryDunn	Berry Dunn McNeil & Parker, LLC
Board	County Board of Supervisors
Board worker	A worker at a polling place on Election Day; positions include inspector, judge, marshal, and clerks (printer clerk and ballot clerk)
County	Maricopa County
County worker	County employee who will work during the election
IAD	Maricopa County Internal Audit Department
IT troubleshooter	Information technology troubleshooter: a worker that will provide technical support for election equipment setup and on Election Day
MCTEC	Maricopa County Tabulation and Election Center
MoFi	Wireless router
Office	Recorder's Office
Poll worker	A worker at a polling place on Election Day; positions include board workers and troubleshooters
Troubleshooter	A worker assigned to monitor and assist three to four polling places during election equipment setup and on Election Day





8. OBSERVATIONS AND RECOMMENDATIONS

8.1 Staffing and Training

BerryDunn identified and reviewed issues related to staffing and training as a primary component of this assessment. The Firm focused on assessing the following items relative to staffing for Election Day activities and day before Election Day setup activities:

- Adequacy of recruiting targets for Election Day and Monday before Election Day setup workers, and progress toward those recruiting targets
- Sufficiency of role-specific trainings provided to election workers

Table 8.1 provides a description of each issue; related Interim Report recommendations from IAD; BerryDunn's observations; BerryDunn's assessment; and BerryDunn's short-term recommendations. Short-term recommendations are intended to be implemented before the General Election. Please note that some short-term recommendations that were informally communicated to the Office, and subsequently implemented, have not been listed in the short-term recommendation sections.

Table 8.1: Staffing and Training Observations and Recommendations

	Staffing and Training Observations and Recommendations		
No.		Issue Description	
8.1.1	Sufficient staffing for Ele	ection Day activities	
	ated Interim Report ecommendations	Finalize a staffing plan that identifies all resources needed to provide adequate and technical expertise for the General Election.	
		Overall Staffing Plan for the General Election:	
	Observations	There will be a total of 503 sites where registered voters can cast their votes on Election Day, which will consist of 463 polling locations and 40 vote centers. The Office plans to staff 461 polling locations with at least five poll workers: one inspector, two judges, one marshal, and one or more clerks (e.g., ballot clerk and print clerk). Two polling locations will be staffed by three workers because there are less than 300 people who are eligible to vote in these areas. The Office plans to staff the 40 vote centers with at least eight poll workers. BerryDunn obtained a staffing plan for 494 sites that has a recruitment goal and the number of workers hired for each role. This staffing plan excludes one polling location and eight vote centers. The polling location excluded from this staffing plan is very remote, and the Office plans to use its	





Staffing and Training Observations and Recommendations

own permanent staff. As for the eight vote centers excluded, the Office reported that eight workers have been hired for each of five vote centers, and the remaining three vote centers will be staffed with the Office's permanent staff.

In addition, the Office plans to have 125 troubleshooters. Each troubleshooter is assigned to up to four polling locations. When any issue arises that cannot be resolved by any of the poll workers, the inspector has been instructed to call their assigned troubleshooter.

Five staging area locations:

There will be five staging area locations where specialized troubleshooters are located and extra equipment is stored in case any equipment at a polling location needs to be replaced or added. These locations include the Maricopa County Tabulation and Election Center (MCTEC) facility, Avondale City Hall, Surprise City Hall, Thunderbird Arts Center, and Mesa Recorder's Office. The Office created a new role (IT troubleshooter) and plans to hire approximately 50 individuals who have some level of IT skills and experience for this position. Each of the five staging area locations will be staffed with 10 IT troubleshooters. In addition, the MCTEC facility, which is the main hub for the hotline, will be staffed with several internal IT resources, including the Office's PC/LAN technician who is assigned as a project manager for IT-related troubleshooting. The MCTEC facility will also have two to four hotline IT troubleshooters who will be the first line to address IT-related hotline calls. As of October 29, 2018, the Office reported that it has confirmed 54 IT troubleshooters who have agreed to work on both setup day and Election Day.

Monday Setup Staffing Plan:

The Office plans to have all polling locations set up by assigned poll workers, as in previous elections. Inspectors are responsible for contacting their facilities to schedule a setup date and time by October 31, 2018, and notifying poll workers of their assignments. In order to ensure the polling locations are set timely by end of day on Monday, the Office asked the facilities' owners/managers if they could set up prior to Monday. Forty-five facilities agreed to permit setup on either Saturday, November 3, 2018, or Sunday, November 4, 2018. The other 417 locations will be set up on Monday (day before Election Day).

The Office plans to utilize poll workers for SiteBooks setup instead of hiring a third-party contractor. The Office plans to have at least one person for each polling location who has been trained in person on setting up of SiteBooks. The Office first made an inquiry of inspectors to assess whether they were comfortable with setting up SiteBooks. For sites where the inspector indicated a lack of confidence in performing SiteBooks setup, that function will be completed by a troubleshooter or a County worker. Each





					ommendations
		ers have co	nfirmed to	•	ble for up to two polling sites. The Office reported that Monday setup as of October 29, 2018.
	In order to ensure on Election Day, t	e any remai the Office e lized in the	ning issues xtended po	oll workers'	ssed before the opening of polling locations at 6:00 a.m. labor hours to start at 5:00 a.m. rather than the 5:30 poll workers will be asked to arrive at the location by
	able to assess who numbers are not l	etermined it nether these based on a uitment effo	e goals are documente rt of poll wo	sufficient to ed forecast orkers for 4	r each role/position; however, BerryDunn has not been o operate all 503 polling locations because these of expected turnout for the General Election. 95 polling locations has demonstrated progress toward
		Goal	Filled	Vacant	
	Inspector	494	493	1	
Assessment	Marshal	494	481	13	
	Judge	496	492	4	
	Clerk 1	490	477	13	
	Clerk 2	491	480	11	
	Clerk/Judge	493	452	41	
	Extra Clerks	127	126	1	
	Total	3,085	3,001	84	
		•		•	•





		Staffing and Training Observations and Recommendations
		As noted in the Observations section, these numbers exclude a staffing plan for one polling location and eight vote centers. The Office reported that these sites have been staffed.
		Troubleshooter Staffing:
		The Office has identified 125 assignments for troubleshooters. According to the staffing plan the Office provided BerryDunn on October 30, 2018, all 125 positions have been filled.
		IT troubleshooter recruitment goal appears to have been met.
		The Office split its staff recruitment effort into several segments, and each area is managed by a different member of Office management using different systems or Excel spreadsheets. The lack of a coordinated approach and enterprise-level tool for tracking resource needs and related recruiting has resulted in an inability to obtain a clear overview of recruitment for the General Election.
		As of October 30, 2018, BerryDunn had not observed that all inspectors had contacted their assigned facilities and poll workers. This was planned to be completed by October 31, 2018.
		Ensure the master staffing schedule includes all staff required for the General Election and is updated as quickly as possible. (BerryDunn observed that this recommendation has been implemented as of October 30, 2018.)
	erryDunn Short-Term Recommendations	 A master staffing schedule will serve as a management tool to continually monitor the status of staff recruitment/assignment effort for all election activities and to help identify areas that need attention.
		 Ensure all inspectors communicate with their assigned facilities and poll workers by October 31, 2018. (The Office reported that this will be completed by October 31, 2018. Therefore, BerryDunn did not observe the completion as of October 30, 2018.) All facilities and poll workers should be notified with the setup schedule in advance so that
		they can make a plan accordingly.
No.		Issue Description
8.1.2 Adequate role-specific tra		ining for election workers
Related Interim Report Recommendations		Identify staffing and training gaps for all categories of Election Day workers. Develop and execute a strategy to recruit and train all needed staffing resources as identified during gap analysis. As a backup





	Staffing and Training Observations and Recommendations
	plan, provide each troubleshooter, inspector, and technician with the training and authority to set up SiteBooks and diagnose setup issues on their own.
Observations	





	Staffing and Training Observations and Recommendations
	Training for troubleshooters: Troubleshooters are required to take another in-person training that focuses on more detailed troubleshooting issues. The Office reported that one training session for all 125 troubleshooters is scheduled on November 3, 2018. The training material was in progress as of October 29, 2018.
	Training for IT troubleshooters: Five sessions of IT troubleshooter training are scheduled between November 1, 2018, and November 3, 2018. Three of these sessions are fully booked as of October 29, 2018. These sessions will cover basic troubleshooting for the more technical issues that may arise during setup and Election Day, and review Frequently Asked Questions, checklists, and most frequent scenarios. BerryDunn has not received the training material, which was in progress as of October 29, 2018.
	Training for County workers who will be setting up SiteBooks: The Office plans to have approximately 100 to 125 County workers in charge of setting up SiteBooks on Monday before Election Day. They are required to attend an in-person training. Six Setup Tech Boot Camp sessions have been scheduled between October 29, 2018, and November 3, 2018, and three of these sessions are fully booked as of October 29, 2018.
	Additionally, the Office is hosting a special training session on November 4, 2018, for a few additional temporary employees who will be helping as IT troubleshooters.
	The Office also plans to hold an hour-long training for the dispatchers, but the date had not been identified as of October 29, 2018.
	It appears that the Office has planned an adequate number of training sessions for each role.
Assessment	BerryDunn has attended one of the in-person training for inspectors, judges, and troubleshooters, and made recommendations based on the Firm's observations. BerryDunn observed that these recommendations have been implemented.
	BerryDunn has not obtained and reviewed the training materials for troubleshooters, IT troubleshooters, the Setup Tech Boot Camp, an additional special training session, and dispatchers.
BerryDunn Short-Term Recommendations	Ensure training includes contingency plan procedures for troubleshooters, IT troubleshooters, and hotline troubleshooters, and ensure all applicable workers will attend the training. (The Office reported it plans to implement this recommendation; however, BerryDunn did not receive the training materials and was not able to observe the implementation.)





		Staffing and Training Observations and Recommendations
		 Troubleshooters, IT troubleshooters, and hotline troubleshooters are expected to address various issues. It is important they are well trained and provided with tools and materials they may need.
		 Schedule IT troubleshooter trainings and County workers trainings, and finalize the training materials as soon as possible. (BerryDunn observed that these trainings have been scheduled as of October 29, 2018, but did not receive the training materials and therefore could not observe full implementation.)
		 To ensure all workers are appropriately trained, each training day should be identified as soon as possible so that workers can accommodate their schedules accordingly.
		Track online training attendance and send a reminder to workers who have not completed the training. (The Office reported it is tracking attendance of online training, but BerryDunn did not received information about any reminders that have been or will be sent, and therefore could not observe full implementation.)
		 Monitoring and sending follow-up reminders will help ensure all board workers complete the online training.
No.		Issue Description
No. 8.1.3	Documentation and comm	Issue Description munication of setup and Election Day contingency plans
8.1.3 Re	Documentation and commentation and commentation and commentations	·





Staffing and Training Observations and Recommendations		
Assessment	The Office has updated the in-person training for board workers to include instructions on how to direct voters when on-site equipment at a polling location is not functional. A handout showing a list of the 40 vote centers has been prepared. The Office reported that each polling location will have 20 copies of this handout and additional copies will be provided as necessary. BerryDunn obtained and reviewed the Emergency Packet Procedures prepared by the Office. The packet outlines emergency procedures for poll workers and includes step-by-step guidance on how to address three different emergency situations: loss of power at facility; loss of MoFi connectivity; and SiteBook and/or printer not functioning. BerryDunn did not obtain training materials for the various troubleshooter roles, which are intended to address detailed troubleshooting guidance and contingency plans.	
BerryDunn Short-Term Recommendations	 Ensure that there is a process in place for staff to continue Election Day activities while the equipment replacement process occurs. (BerryDunn observed that this recommendation has been implemented as of October 29, 2018.) Train board workers on procedures to properly direct voters when on-site voting equipment is not operational. (BerryDunn observed that this recommendation has been implemented in the training for inspectors and judges as of October 29, 2018. The Office reported it plans to include an appropriate level of contingency procedures in the trainings for other roles; however, BerryDunn did not receive the training materials for other roles to observe the implementation.)	

8.2 Technology Management

BerryDunn identified and reviewed issues related to technology management as a primary component of this assessment. Technology management subject areas assessed include: operability of equipment, technical support, and contingency planning





related to equipment. BerryDunn focused on issues related to the SiteBook, the computer used to check in voters with an internally built application; the dashboard, an internally built tool planned to be used to monitor Election Day activities; and wireless connectivity for SiteBooks using MoFi devices. Table 8.2, on the following page, provides a brief description of each issue; related Interim Report recommendations from IAD; BerryDunn's observations; BerryDunn's assessment; and BerryDunn's short-term recommendations. Short-term recommendations are intended to be implemented before the General Election. Please note that some short-term recommendations that were informally communicated to the Office, and subsequently implemented, have not been listed in the short-term recommendation sections.

Table 8.2: Technology Management Observations and Recommendations

Technology Management Observations and Recommendations		
No.		Issue Description
8.2.1	Ability to monitor Electi	on Day activity
	ted Interim Report ecommendations	Develop and review real-time system reports showing SiteBook connectivity and other critical activities during the setup process and throughout the election.
	Observations	The Office reported that a dashboard application is in development that will be able to access information transmitted from SiteBooks, including identifying when a SiteBook is down and how long check-in takes. The Office reported that this tool would be able to be used to monitor SiteBooks the day before Election Day and on Election Day. Technical staff reported that the dashboard could be used to ensure all SiteBooks are online and to ensure all SiteBooks are locked at the end of the day Monday after setup is complete. Operational staff reported meeting with the application developer to define specific metrics and thresholds for the dashboard. BerryDunn observed a demonstration of the dashboard interface as of October 26, 2018. The dashboard includes a list of all polling places and vote centers, uses icons and colors to communicate statistics per hour, and automatically refreshes regularly. The dashboard icons measure the following metrics: line wait times, how many SiteBooks are on and how many are unlocked, number of workers signed in, and how many successful check-ins that included issuing a ballot have been completed on the SiteBook. The dashboard is sortable by each metric, and all of the voting sites are drillable to view more detail. Staff discussed the possibility of displaying the dashboard in the hotline room to be located in the MCTEC facility and assigning dedicated staff members to monitor the dashboard. These individuals would be responsible for reporting issues to decision-makers. The decision-makers could then make a





		Technology Management Observations and Recommendations
		decision based on the issues and deploy resources as necessary. Staff discussed displaying multiple views of the dashboard to monitor different metrics.
	Assessment	The dashboard will be a tool that can be used to measure and assess metrics in real time to determine if there are issues at any voting sites. BerryDunn observed discussion of how it will potentially be used and escalation paths, but specific plans were not defined and documented as of October 29, 2018.
		Identify and document staff roles for monitoring the dashboard, as well as procedures for responding to dashboard alerts. (BerryDunn observed identification of roles and procedures, but did not observe documentation of these roles and procedures.)
Rerr	vDunn Short-Term	 The dashboard appears to be a tool that can be used on Election Day to identify and address a number of issues. If roles are not clear, the dashboard functionality may not be used to its full potential.
BerryDunn Short-Term Recommendations	Use the dashboard to help ensure that setup and closeout are successfully executed. Consider development and utilization of a roll-call procedure, using the dashboard, to ascertain the status of all SiteBooks at 5:00 p.m. on Monday before Election Day. Ensure that an escalation plan is in place to address any outstanding setup issues after 5:00 p.m. (The Office reported it plans to implement these recommendations; BerryDunn did not observe implementation of these recommendations.)	
		 A properly developed and communicated escalation plan will permit resolution of SiteBook issues discovered during setup prior to the commencement of Election Day activities.
No.	Issue Description	
8.2.2	Reliability of SiteBook har	rdware, software, and wireless network connectivity to support Election Day voter sign-in and verification
	ted Interim Report ecommendations	Develop and review real-time system reports showing SiteBook connectivity and other critical activities during the setup process and throughout the election.
Observations		Because some SiteBooks were packed for shipping before certain final updates were made to the SiteBook application, those SiteBooks will need to be updated when they are set up on Monday before Election Day. Technical staff reported that updates/patches to the SiteBook application will take minimal time and will not impede setup. Technical staff reported that issues due to SiteBooks not updating properly are rare. (Staff reported 12 out of 1,600 SiteBooks units experienced issues due to updates during the Primary Election.)





	Technology Management Observations and Recommendations
	The Office reported that it purchased six connectivity-testing devices. The Office identified 21 polling sites that had experienced connectivity issues during the Primary Election, and reported that all of these sites have been tested for connectivity between the Primary Election and the General Election. The Office reported that only one site has moved since the Primary Election, and it has been tested for connectivity.
	The Office reported that the dashboard will be used both on the day before Election Day and Election Day to monitor SiteBooks, and will alert staff at the warehouse if one or multiple SiteBooks are not transmitting information. The role of the IT troubleshooter has been created to help troubleshoot technical issues and backfill the role that a third-party contractor fulfilled in providing technical support during the Primary Election. BerryDunn observed that board workers are trained to contact a troubleshooter if there are any issues, and the troubleshooter can call the hotline to deploy an IT troubleshooter if needed. Staff reported that IT troubleshooters will have some technical background and are required to attend a specific training "boot camp" related to elections equipment. Additionally, the Office reported that SiteBooks could be used off-line in a similar manner to a paper roster to sign in voters, so that voters can vote provisionally in the event of a connectivity outage.
Assessment	Based on information BerryDunn received, it does not appear that failure of SiteBook updates are a high-risk to impact Election Day activities. In addition, the plan to replace faulty SiteBooks in the event of technical problems appears practical given time and resource constraints. Although testing at all polling locations would be ideal, testing at priority sites only appears reasonable based on time and resource constraints prior to Election Day. Priority sites for connectivity testing include all locations that had connectivity issues during the Primary Election, and all locations where a MoFi will be placed at a different physical location from the Primary Election (e.g., use of a different room in the same building). BerryDunn has not verified whether connectivity testing has been conducted at any new physical locations where MoFi would be used as of October 29, 2018.
BerryDunn Short-Term Recommendations	Ensure any MoFi devices that will be placed in a different location (at the polling place) during the General Election than they were during the Primary Election are tested at their new physical location. (The Office reported that this recommendation has been implemented; BerryDunn did not observe connectivity testing.) Connectivity testing helps to mitigate the risk of connectivity issues that could disrupt activities on Election Day.









8.3 Project Management

BerryDunn identified and reviewed issues related to project management as a primary component of this assessment. BerryDunn observed meeting management and assessed documents used to manage the project, such as spreadsheets, reports, and emails. Table 8.3 provides a description of each issue; related Interim Report recommendations from IAD; BerryDunn's observations; BerryDunn's assessment; and BerryDunn's short-term recommendations. Short-term recommendations are intended to be implemented before the General Election. Please note that some short-term recommendations that were informally communicated to the Office, and subsequently implemented, have not been listed in the short-term recommendation sections.

Table 8.3: Project Management Observations and Recommendations

	Project Management Observations and Recommendations		
No.	Issue Description		
8.3.1	Effective project management of General Election activities		
	ated Interim Report ecommendations	Ensure this new project leader has the resources, support, and ability to successfully plan and execute the General Election activities, while mitigating potential pitfalls. This includes ensuring collaborative communications and coordination of efforts between all persons involved to facilitate a successful Election Day.	
	Observations	The Office utilizes an Excel spreadsheet that includes action items due and performance goals for each week, by category area, in order to track deadlines and measure progress. The areas include board worker recruitment, ballot processing, central recruitment, paper rosters, polling locations, training, troubleshooter recruitment, and warehouse. The elections project team members are each assigned specific areas and are responsible for managing that area. At their weekly management meetings, the elections project team discussed these items and tasks, and shared updates and progress on each item with the Director of Elections. Additionally, BerryDunn observed weekly meetings in which the elections project team shared updates with the Recorder. The Office reported holding discussions related to risk scenarios. The Office also reported discussing "lessons learned" throughout the project. BerryDunn obtained some of the documents that project team members used to track project tasks; for example, several Excel spreadsheets to track recruitment of various types of workers, and a screenshot of a database to track and report on recruitment of board workers. BerryDunn received the 2018 Election Communications Plan that defines four communication tiers, as well as their respective audiences; methods of communication; and timing of communication.	





	Project Management Observations and Recommendations	
	Assessment	The Office has a project manager and several staff members assigned to project tasks who use various tools to track completion of those tasks. Although project team members are each assigned a specific area, the task owner for each action item is not clearly documented in the spreadsheet. The tracking spreadsheet did not include task dependencies. While the Office describes processes for assessing risk and discussing lessons learned, the processes are not structured and documented. A documented communications plan is a useful project management tool that could help the project team communicate with various entities on Election Day.
BerryDunn Short-Term Recommendations		Consider conducting structured tabletop sessions with all elections project team members to discuss several "what if" scenarios and walk through roles, responsibilities, and actions in each scenario. Based on these discussions, the team could determine any outstanding tasks and create a checklist of items to track the completion of these tasks. (BerryDunn did not observe implementation of this recommendation.)
		 Tabletop sessions would encourage project team members to consider scenarios and devote critical thought to solutions, resulting in strengthening crisis preparedness and uncovering unaddressed items.
		Ensure all project tasks have documented due dates, a task owner, and task dependencies. (BerryDunn observed implementation of due dates for tasks, but not documented task owners and dependencies.)
		 Documenting roles and responsibilities, as well as due dates, ensures that all tasks are addressed and allows the team to evaluate project progress. Task dependencies help the team understand which tasks are the highest priority and highest risk, and prioritize tasks.
		Develop a "lessons learned" process that will be beneficial for future elections. (The Office reported it is compiling lessons learned; BerryDunn did not observe implementation of this recommendation.)
		 The project team can gain efficiencies, reduce project costs, and mitigate risks by learning from past projects, and implementing past successes while avoiding past failures.
No.	Issue Description	
8.3.2	Timely setup of polling locations	
	ated Interim Report ecommendations	Contact existing voting facilities to secure commitments.





Project Management Observations and Recommendations	
Observations	Office staff reported a plan to recruit a minimum of 225 workers (125 troubleshooters and 100 County employees) to set up SiteBooks on the Monday before Election Day, which indicates that each setup worker is responsible for the setup of two to three sites. The Office asked inspectors to indicate whether they were comfortable with SiteBook setup after viewing video instructions. For sites where the inspector indicated a lack of confidence in performing SiteBooks setup, that function will be completed by a troubleshooter or a County worker. Each troubleshooter and County worker will be responsible for up to two polling sites. The Office plans to have all polling locations set up between 8:00 a.m. and 5:00 p.m. on the Monday before Election Day, except for the facilities that will allow setup prior to Monday and the facilities that cannot be set up during business hours, such as schools. The goal is to have most sites set up by 3:00 p.m. All inspectors, judges (backup inspectors), and troubleshooters are required to complete training that includes SiteBook setup.
	The Office reported that in addition to primary responsibility for setting up two sites each, troubleshooters will monitor and support their three to four assigned sites for Election Day during setup, including the two assigned setup sites. The Office reported that the project team has obtained telephone numbers for afterhours staff at voting facilities, in case any need arises to address issues or setup after 5:00 p.m.
	In training observed by BerryDunn, trainers told the inspectors they would receive their roster of board workers on October 29, 2018, and should contact the facility and board workers to schedule a setup time. On November 3, 2018, the troubleshooter is expected to contact the inspector, who will be responsible for providing the setup time to the troubleshooter. BerryDunn reviewed a letter sent to polling place facilities, providing a calendar of events leading up to Election Day and notifying facilities that the opening time is 5:00 a.m. The letter also notified facilities that Monday, November 5, 2018, is the setup day, and that facilities should expect to be contacted by an inspector by Wednesday, October 31, 2018. The letter provides contact information for the facilities to use if the inspector does not call and schedule setup by October 31, 2018.
Assessment	The Office has taken action to mitigate logistical risks, including obtaining after-hours contact information. However, there was not a specific schedule in place for setup coordination. The Office reported that inspectors would receive board worker contact information on October 29, 2018, and then schedule setup with facilities by October 31, 2018.
BerryDunn Short-Term Recommendations	Ensure a specific schedule is in place to organize logistics on the day before Election Day so that facility and setup staff are able to meet, access the facility, and set up all equipment. (The Office





	Project Management Observations and Recommendations	
	Project Management Observations and Recommendations	
		reported it plans to implement this recommendation; BerryDunn did not observe implementation of this recommendation.)
		 Because logistics of site setup were reported as a potential cause of polling place issues during the Primary Election, confirming a specific schedule will give the project team assurance that workers and facility staff will be able to meet and access the facility in order to set up the equipment.
No.		Issue Description
8.3.3	Minimization of voting line wait times	
	ated Interim Report ecommendations	Implement procedures to measure line wait times and voter check-in activity at individual voting locations throughout the day, and quickly redeploy resources as necessary.
	Observations	The Office is participating in a wait time study in cooperation with the Bipartisan Policy Center, which studies polling place wait times nationwide. The application developer reported that the SiteBook application was updated to include wait time tracking functionality. The planned procedure is as follows: O The inspector will scan the wait time badge into the SiteBook at the top of every hour. O If there is no line, the inspector will select "report no line" on the screen. O If there is a line, the inspector will select "start timer," and the marshal will hand the badge to the last person in line. O The marshal will instruct the voter to give the badge to the board worker when the voter reaches check-in, and the worker will scan the badge into the SiteBook to record the time. O If the line is longer than an hour, a second badge will be deployed. The dashboard will indicate whether there is a line or not at the time of the badge scan, and the length of the wait based on the hourly scan. The Office reported that the dashboard threshold indicators will be green if the wait time is less than 20 minutes, yellow for over 20 minutes, and red for over 30 minutes. The Office has discussed having a staff member designated to monitor the dashboard and escalate line wait-time issues to decision-makers. According to the Polling Place Wait Time Reduction Plan, available on the board worker training website and dated August 27, 2018, if there is a wait time longer than 30 minutes at any locations, inspectors or troubleshooters will work with Office staff to assess the reason for the issue. Depending upon the





Project Management Observations and Recommendations	
	assessment, troubleshooters can deliver additional booths and/or SiteBook terminals, or IT troubleshooters can be deployed to provide technical assistance. The Office reported that "emergency kits" with extra SiteBooks are available to be deployed if necessary.
	In addition, the Office has implemented an outreach campaign using a third party to advertise the important deadlines related to the General Election, and information in both English and Spanish about phased opening of early vote centers. Throughout the campaign, the Office has encouraged voters to vote early in order to minimize the number of in-person voters on Election Day.
Assessment	The Office will be able to use technology to track line wait times in real time, which is valuable data that can be used to identify challenges and deploy resources on Election Day. The line wait time methodology will allow the Office to monitor line wait time once every hour, but not continually throughout the day; the Office reported that the reason for this is consistency with the other participants in the wait time study. As of October 29, 2018, the Wait Time Reduction Plan had not been updated to reflect the use of the SiteBook to measure wait time, and BerryDunn did not receive any documentation related to procedures for escalating thresholds.
BerryDunn Short-Term Recommendations	 Update and communicate a clear written procedure that identifies the thresholds for escalation (e.g., 30 minutes, 1 hour) and exact procedures for mitigation. (BerryDunn observed identification of wait time thresholds for the dashboard, but did not observe implementation of threshold and mitigation procedure documentation.) Workers and those monitoring the dashboard need to know specific actions to take as long wait times are identified, and if there are procedures for escalating thresholds.





9. FUTURE ELECTION RECOMMENDATIONS FOR IMPROVEMENT

BerryDunn recognizes that certain recommendations developed during this engagement cannot be implemented before November 6, 2018, due to time and resource constraints related to planning for the General Election during this period. In this section, BerryDunn provides recommendations for implementation after November 6, 2018, to help the Office ensure successful planning and execution of future election activities and mitigate the issues identified during the Primary Election. BerryDunn's recommendations are based on the Firm's observations and understanding gained pursuant to the scope of this assessment.

BerryDunn observed opportunities for improvement in the structure, documentation, and communication of project management activities for elections. Structured project management methods and tools will help the project team increase productivity and quality of work, communicate with project stakeholders, mitigate risks, and track and communicate the progress of the project. Once these methods and tools are initially created, they can be customized and reused for each election project. BerryDunn recommends that the Office consider implementing the following recommendations related to project management:

Recommendation 1: Develop a Work Structure Breakdown (WSB)

The WSB should include all election tasks, such as deliverables and milestones, from planning through completion of an election. Each task should have target start and end dates, task owner, assigned resources, and task dependencies when applicable. Each task should be owned by a task owner, but the project manager should continually monitor the progress of each task and have a grasp of overall progress of election activities at any point of time. BerryDunn recommends the Office create a template of WSBs that includes most commonly required tasks for elections and can be customized for each type of election.

Best practices related to this recommendation:

- Create and maintain a project schedule that documents due dates, task owners, and task dependencies. BerryDunn recommends consideration of project management software to create and maintain a project schedule.
- Identify and document in detail project stakeholder roles and responsibilities, including those for the project manager, the project management team, the technical team, the executive leadership team, and other identified project stakeholders.
- Conduct knowledge transfer sessions to ensure that each task owner has one or more backup staff member.
- Confirm all tasks with pre-task emails, and require follow-up emails to confirm that tasks
 have been completed or to report any challenges or issues with completing tasks.





Recommendation 2: Create a central repository of election-related documents, including staffing plan/schedule, training schedules and materials, communication, and procedures.

These documents should be continually updated by project team members. This will help ensure all project team members, including management, have access to the same latest version of documents. BerryDunn understands that the recruitment and hiring processes vary for each type of election workers, and need to be managed separately. However, based on the Firm's observations, BerryDunn believes that the Office will significantly benefit from creating a master staffing plan/schedule in which all recruitment efforts are compiled.

Best practices related to this recommendation:

- Create written procedures, starting with the most critical processes, to ensure other staff can follow the procedures in case of emergency.
- Document elections policies and procedures, and update as processes change. For
 example, because the dashboard is being used for the first time in the General Election,
 create procedures, user guides, and training to describe the use of the dashboard.
- Document a project communication strategy that includes communication type, delivery method, frequency, owner, and audience for the communication.
- For every meeting, create a simple meeting agenda that includes topics to be discussed and any decisions to be made. Create summary meeting minutes that include attendance, key points discussed, decisions made, risks identified, issues resolved, and action items and owners.
- Conduct a risk identification exercise with project stakeholders to identify any existing or
 potential risks and issues. A list of lessons-learned from the previous election may be a
 good place to start. Identifying risks at the beginning of the project will allow for
 continuity in the mitigation strategies for transferable issues and risks, and set the
 project up for success in proactively identifying potential challenges and associated
 mitigation strategies.